RESOLUTION NO. _____

A Resolution of the City Council of the City of Milpitas, California Approving the ABAG Report "Taming Natural Disasters" as the City of Milpitas' Local Hazard Mitigation Plan

WHEREAS, the Bay Area is subject to various earthquake-related hazards such as ground shaking, liquefaction, landsliding, fault surface rupture, and tsunamis; and

WHEREAS, the Bay Area is subject to various weather-related hazards including wildfires, floods, and landslides; and

WHEREAS, the City of Milpitas recognizes that disasters do not recognize city, county, or special district boundaries; and

WHEREAS, the City of Milpitas seeks to maintain and enhance both a disaster-resistant City and region by reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters; and

WHEREAS, the City of Milpitas is committed to increasing the disaster resistance of the infrastructure, health, housing, economy, government services, education, environment, and land use systems in the City of Milpitas as well as in the Bay Area as a whole; and

WHEREAS, the federal Disaster Mitigation Act of 2000 requires all cities, counties, and special districts to have adopted a Local Hazard Mitigation Plan to receive disaster mitigation funding from FEMA; and

WHEREAS, the Association of Bay Area Governments (ABAG) has approved and adopted the ABAG report "Taming Natural Disasters" as the multi-jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Milpitas adopts, and adapts with its local annex, this multi-jurisdictional plan as its Local Hazard Mitigation Plan.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the City Council of the City of Milpitas commits to continuing to take those actions and initiating further actions, as appropriate, as identified in the City of Milpitas Annex of that multi-jurisdictional Local Hazard Mitigation Plan.

PASSED AND ADOPTED THIS ____ day of _____, 2005.

(Signature lines)

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CITY OF MILPITAS
LOCAL HAZARD MITIGATION PLAN

All communities are subject to various natural hazards. In California, the most common natural hazards are earthquakes, fires, floods and landslides. It is possible to take actions to mitigate the effect of such hazards on facilities, the environment and the economy in order to reduce both the impact of such hazards when they occur and the cost of recovery from their effects.

The federal Disaster Mitigation Act of 2000 established a Pre-Disaster Mitigation (Competitive) Grant Program to provide funding to local governments to aid in the implementation of pre-disaster hazard mitigation projects. In order for the City of Milpitas to be eligible to submit grant applications for these funds, a Local Hazard Mitigation Plan (LHMP) must be created and adopted by a Resolution of the Milpitas City Council.

The Association of Bay Area Governments (ABAG) received a grant from the Federal Emergency Management Agency to create a multi-jurisdictional LHMP for adoption by its member governments. The City of Milpitas has adopted the ABAG plan for its LHMP.

The LHMP consists of:

1. An Annex assessing hazard conditions peculiar to the City of Milpitas and describing the planning process utilized to select and prioritize mitigation projects and to maintain the LHMP, and
2. A Table containing mitigation strategies covering infrastructure, health, housing, the economy, government services, education, the environment and land use and indicating whether such strategies are addressed by existing programs, are being considered for implementation, have not yet been considered, or are not appropriate. Note that the education section has intentionally left blank inasmuch as this section pertains to school districts.

Local Hazard Mitigation Plan Annex
City of Milpitas, CA

Introduction

The City of Milpitas is fifth largest city in Santa Clara County, California. The City has a population of 62,698 people, based on the 2000 census[1]. Last year, the City's budget was $60M. The City employs 550 people and is a full service City.

The Planning Process

The process of preparing this plan was familiar to the City of Milpitas. The City has a Safety Element to its General Plan last updated in 1994 that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA) requirements (which, since 1988, have required mitigation for identified natural hazards). The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

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Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" meeting. In addition, the City has provided written and oral comments on the multi-jurisdictional plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

Key City staff met to identify and prioritize mitigation strategies appropriate for the City. Staff involved in this meetings included representatives of the Building, Planning, Engineering, Finance and Fire departments. Prior to the first meeting, appropriate City departments were identified. At the meeting each mitigation strategy was reviewed in the light of general priorities and existing programs. After the meeting, designated department representatives identified preliminary budgets and potential funding sources for strategies of specific interest. The City provided the opportunity for the public to comment on the draft mitigation strategies selected by City staff at the City Council meeting on April 5, 2005. The resolution adopting the plan and strategies will be on the City Council agenda for that same meeting. The mitigation strategies will become an implementation appendix to the General Plan's Safety Element. ***[Note – this paragraph may need to be revised after the resolution is adopted to reflect the actual process.]***

Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction and tsunamis) and four related to weather (flooding, landslides,

[1] For complete Census information on this city, see http://www.bayareacensus.ca.gov/.

wildfires and drought). Except for tsunamis, these hazards also impact the City. According to available hazard maps, tsunamis are not expected to affect the City.

In addition to a number of general hazard mapping activities undertaken by the City since the last revision of the Safety Element, City staff made use of the detailed and current maps available on the ABAG website at **http://quake.abag.ca.gov/mitigation/**.

Information on disasters declared in Santa Clara County is at
http://quake.abag.ca.gov/mitigation/disaster-history.html.

The City examined the hazard exposure of City urban land based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. Of the 7422 urban acres in the City,

- 323 acres are in an Alquist-Priolo Fault Rupture Study Zone (due to the active Hayward fault that runs through the eastern portion of the City);
- All 7,422 urban acres are in the highest two categories of shaking potential;
- 516 acres are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to earthquake-induced landslides;
- 5,166 acres are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to liquefaction susceptibility;
- 5,819 acres are in areas of moderate, high, or very high liquefaction susceptibility mapped by the U.S. Geological Survey;
- 2,430 acres are in the 100-year flood plain, while an additional 2,626 acres are in other flood-prone areas;
- 773 acres are subject to dam inundation;
- 262 acres are in areas of existing landslides;
- 471 acres are subject to high, very high, or extreme wildfire threat, and 2,693 acres are in wildland-urban interface threat areas; and
- All 7,422 urban acres are subject to drought.

The City also examined the hazard exposure of infrastructure based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. Of the 214 miles of roadway in the City,

- 9 miles of road are in an Alquist-Priolo Fault Rupture Study Zone (due to the active Hayward fault that runs through the eastern portion of the City);
- All 214 miles of road are in the highest two categories of shaking potential;
- 8 miles of road are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to earthquake-induced landslides;
- 153 miles of road are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to liquefaction susceptibility;
- 175 miles of road are in areas of moderate, high, or very high liquefaction susceptibility mapped by the U.S. Geological Survey;

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- 72 miles of road are in the 100-year flood plain, while an additional 82 miles of road are in other flood-prone areas;
- 21 miles of road are subject to dam inundation;
- 5 miles of road are in areas of existing landslides;
- 8 miles of road are subject to high, very high, or extreme wildfire threat, and 78 miles of road are in wildland-urban interface threat areas.
- Drought is not a concern for transportation.

Finally, the City examined the hazard exposure of city-owned critical facilities based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickcrit.html**. Of the 46 critical facilities owned by the City,

- 1 city-owned critical facility is in an Alquist-Priolo Fault Rupture Study Zone (due to the active Hayward fault that runs through the eastern portion of the City);
- All 46 city-owned critical facilities are in the highest two categories of shaking potential;
- 2 city-owned critical facilities are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to earthquake-induced landslides;
- 43 city-owned critical facilities are in an area where further studies are required of new development by the Seismic Hazard Mapping Program of the California Geological Survey due to liquefaction susceptibility;
- 38 city-owned critical facilities are in areas of moderate, high, or very high liquefaction susceptibility mapped by the U.S. Geological Survey;
- 13 city-owned critical facilities are in the 100-year flood plain, while an additional 20 city-owned critical facilities are in other flood-prone areas;
- 11 city-owned critical facilities are subject to dam inundation;
- 1 city-owned critical facility is in areas of existing landslides; and
- 2 city-owned critical facilities are subject to high, very high, or extreme wildfire threat, and 13 city-owned critical facilities are in wildland-urban interface threat areas.
- Since the City operates a water utility, drought is a major concern.

In spite of the areas of the City located in flood-prone areas, there are no repetitive loss properties in the City based on the information at **http://quake.abag.ca.gov/mitigation/pickflood.html.**

Drought, though a potential problem in the City, is not fully assessed. What would be a drought in other areas of the country is controlled in this region through the importation of water and the storage of water in reservoirs. Occasionally, the impacts of prolonged periods of drought cause problems such as water rationing or shortages of water for landscaping. Shortages in precipitation in the Sierra Nevada can have a more pronounced impact on water supply in the region than a drought in the Bay Area itself. Thus, drought is not a hazard that can be depicted in map form. There is also no current data on the probability of drought that would be comparable to the USGS effort on earthquakes in the region, or the way 100-year flood maps are created.

The City plans to work with ABAG in developing the specific impact of each hazard to buildings, infrastructure and critical facilities as proposed in ABAG's Annex which states that

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ABAG will be developing this information in 2005 and early 2006. As these impacts are not fully developed, the City has reviewed and ranked the identified hazards based on past disasters and expected future events. The conclusion is that earthquakes (particularly shaking and liquefaction), flooding and fires in the wildland-urban interface areas are more of a threat than other hazards. The City's concern regarding earthquakes is reflected in its first two Pre-Disaster Mitigation Grant submittals for the Large Gym Seismic Retrofit and the South Milpitas Waterline Replacement.

Mitigation Activities and Priorities

As a participant in the ABAG multi-jurisdictional planning process, City of Milpitas staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was reviewed in detail at a meeting of the representatives of the Building, Planning, Engineering, Finance and Fire departments on February 16, 2005. At the meeting, all of the mitigation strategies were reviewed. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, many of the strategies are existing City programs which are already a part of the planning process through plan and project review, building and fire code enforcement, and development of the City's General Plan. New activities, either identified as part of this Annex or those not yet considered, will be incorporated into these existing mechanisms. Some activities will require funds which are not yet identified. However, as such activities are adopted, the City will work to identify potential funding sources including capital improvement budgets, bond issues, and federal and state grants.

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These draft priorities were submitted to the City Manager for review. The draft priorities were then provided to the City Council on April 5, 2005. The public was provided with an opportunity to comment on the draft priorities. The final strategies (as shown in the attached Table) will become an Implementation Appendix to the City's Safety Element.

In addition, the City examined the hazard exposure information to City-owned critical facilities supplied by ABAG. As mentioned in the Hazard and Risk Assessment section of this Annex, the City has determined that the combination of construction type, age, and shaking exposure of one facility is significant. Therefore, the City has applied for a Pre-Disaster Mitigation grant to retrofit the Large Gym at the Sport Center which is designated as a primary mass care shelter

Plan Maintenance and Updating Process

The City of Milpitas is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City Planning Director will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City again plans to participate in the multi-jurisdictional plan. If

ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

To support this commitment, the City's Office of Emergency Services in the Fire Department will ensure that ***monitoring*** of this Annex occurs on an on-going basis. Triggers for changes to this Annex will include disasters affecting the City, legal changes, notices from ABAG as the lead agency in this process, and other inputs as may occur. Review of the Annex will be an agenda item at a City Executive Staff meeting each spring. At that meeting, the Annex will be ***evaluated*** in light of political and technological changes during the past year or other significant events. The City Executive Staff will be responsible for determining if the Annex should be updated.

Updates to the Annex will be available for ***public review*** at the Office of Emergency Services following publication of a notice of public hearing in a paper of record, as was done for this initial Annex. All public comments will be considered and publicly initiated changes will be integrated into the Annex whenever reasonable and appropriate.

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Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							*Responsible Agency or* Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if *existing program*), *Estimated* Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
INFR - a - Multihazard									
1) Assess the vulnerability of critical facilities designated by lifeline operators to damage in natural disasters or security threats, including facilities owned outside of the Bay Area that can impact service delivery within the region. **Note** - Lifeline agencies, departments, and districts are those that operate transportation and utility facilities and networks.	X							An assessment of the city owned water utility has been performed by DPW and Engineering.	
2) Comply with State of California and federal requirements to assess the vulnerability of dams to damage from earthquakes, seiches, landslides, liquefaction, or security threats.	X							Santa Clara Valley Water District (hereinafter SCVWD).	
3) Encourage the cooperation of utility system providers and cities, counties, and other special districts to develop strong and effective mitigation strategies for infrastructure systems and facilities.							X		
4) Retrofit or replace critical lifeline facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters.		X						DOUG / Engineering	Two projects. See INFR-b-4 for initial project addressing critical lifeline facilities. See GOVT-a-2 for sewage system hardening project.
5) Support and encourage efforts of ***other*** (lifeline) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies. (For example, a city might pass a resolution in support of a transit agency's retrofit program.)							X		

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
6) Plan for speeding the repair and functional restoration of lifeline systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water Agency Response Network (WARN).					X			DOUG / Engineering	In process; yet to determine cost estimate or target date; See INFR-b-6
7) Engage in, support, and/or encourage research by others on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in disasters.	X							Review by consultant employed by Engineering.	
8) Pre-position emergency power generation capacity (or have rental/lease agreements for these generators) in critical buildings of cities, counties, and special districts to maintain continuity of government and services.	X							DPW	
9) Have back-up emergency power available for critical intersection traffic lights.	X							Engineering and DPW	Active CIP
10) Develop unused or new pedestrian rights-of-way as walkways to serve as additional evacuation routes (such as fire roads in park lands).							X		
11) Coordinate with PG&E and others to investigate ways of minimizing the likelihood that power interruptions will adversely impact vulnerable communities, such as the disabled and the elderly.							X		
12) Encourage replacing aboveground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new phone and electrical utility lines are installed underground.	X							Engineering	Rule 20 funds

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if *Existing Program*, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding *Agency (if high priority)*, Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
13) Coordinate with the State Division of Safety of Dams to ensure an adequate timeline for the maintenance and inspection of dams, as required of dam owners by State law.	X							SCVWD	
14) Encourage communication between State OES, FEMA, and utilities related to emergencies occurring outside of the Bay Area that can affect service delivery in the region.							X		
15) Ensure that transit operators, private ambulance companies, cities, and/or counties have mechanisms in place for medical transport during and after disasters that take into consideration the potential for reduced capabilities of roads following these same disasters.	X							Santa Clara County Health Department Emergency Medical Services	
16) Effectively utilize the Transportation Management Center (TMC), the staffing of which is provided by Caltrans, the CHP and MTC. The TMC is designed to maximize safety and efficiency throughout the highway system. It includes the Emergency Resource Center (ERC) which was created specifically for primary planning and procedural disaster management.	X							Silicon Valley Intelligent Transportation Systems (SVITS) Program	
INFR - b - Earthquakes									
1) Expedite the funding and retrofit of seismically-deficient city- and county-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies.					X			Engineering	Evaluating the need for seismic retrofit which may *result in future grant* applications.
2) Establish a higher priority for funding seismic retrofit of existing transportation and infrastructure systems (such as BART) than for expansion of those systems.						X			

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)								Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered			
3) Include "areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture" in the list of criteria used for determining a replacement schedule for pipelines (along with importance, age, type of construction material, size, condition, and maintenance or repair history).	X								Engineering	
4) Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.		X							Engineering	Council Resolution 7504; Cost estimate $2M; Target completion Fall 2006; Funds source is 2003-2008 CIP; See INFR-a-4
5) Replace or retrofit water-retention structures that are determined to be structurally deficient.	X								Engineering	
6) Install portable facilities (such as hoses, pumps, emergency generators, or other equipment) to allow pipelines to bypass failure zones such as fault rupture areas, areas of liquefaction, and other ground failure areas (using a priority scheme if funds are not available for installation at all needed locations).					X				Engineering	In process; yet to determine cost estimate or target date; See INFR-a-6
7) Install earthquake-resistant connections when pipes enter and exit bridges.						X				
8) Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities.	X								Engineering	

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
9) Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.							X		
10) Examine the feasibility of developing a water-borne transportation "system" – comprised mainly of relatively inexpensive barges – across the Bay for use in the event of major earthquakes. Implementation of such a system could prove extremely useful in the event of structural failure of either the road-bridge systems or BART and might serve as an adjunct to existing transportation system elements in the movement of large numbers of people and/or goods.							X		
INFR - c - Wildfire									
1) Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development.	X							Fire Prevention Bureau	
2) Develop a coordinated approach between fire jurisdictions and water supply agencies to identify needed improvements to the water distribution system, initially focusing on areas of highest wildfire hazard.						X			

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
3) Develop a defensible space vegetation program that includes the clearing or thinning of (a) non-fire resistive vegetation within 30 feet of access and evacuation *roads and routes to critical facilities, or (b) all non-native* species (such as eucalyptus and pine, but not necessarily oaks) within 30 feet of access and evacuation roads and routes to critical facilities.	X							Fire Prevention Bureau	
4) Ensure all dead-end segments of public roads in high hazard areas have at least a "T" intersection turn-around sufficient for typical wildland fire equipment.	X							Fire Prevention Bureau, Planning	
5) Enforce minimum road width of 20 feet with an additional 10-foot clearance on each shoulder on ***all*** driveways and road segments greater than 50 feet in length in wildfire hazard areas.	X							Fire Prevention Bureau, *Planning*	
6) Require that development in high fire hazard areas provide adequate access roads (with width and vertical clearance that meet the minimum standards of the *Fire Code* or relevant local ordinance), onsite fire protection systems, evacuation signage, and fire breaks.	X							Fire Prevention Bureau, Planning	
7) Ensure adequate fire equipment road or fire road access to developed and open space areas.	X							Fire Prevention Bureau, Planning	
8) Maintain fire roads and/or public right-of-way roads and keep them passable at all times.	X							DPW	
INFR - d - Flooding									
1) Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.	X							SCVWD	

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
2) Develop procedures for performing a watershed analysis to look at the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.	X							SCVWD	
3) Conduct a watershed analysis at least once every three years.	X							SCVWD	
4) Assist, support, and/or encourage the U.S. Army Corp of Engineers, various Flood Control and Water Conservation Districts, and other responsible agencies to locate and maintain funding for the development of flood control projects that have high cost-benefit ratios (such as through the writing of letters of support and/or passing resolutions in support of these efforts).	X							SCVWD	
5) Pursue funding for the design and construction of storm drainage projects to protect vulnerable properties, including property acquisitions, upstream storage such as detention basins, and channel widening with the associated right-of-way acquisitions, relocations, and environmental mitigations.							X		
6) Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design capacity in handling water flows as part of regular maintenance activities.			X					Engineering	Planned for next CIP; Estimated cost $1M to replace old pumps; Target completion Fall 2005; Funds source is RDA
7) Continue maintenance efforts to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate), to allow for the free flow of water.	X							DPW	

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
8) Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to confirm with the Regional Water Quality Control Board's Best Management Practices.	X							DPW, *Engineering*, SCVWD	
9) Develop an approach and locations for various watercourse bank protection strategies, including for example, (1) an assessment of banks to inventory areas that appear prone to failure, (2) bank stabilization, including installation of rip rap, (3) stream bed depth management using dredging, and (4) removal of out-of-date coffer dams in rivers and tributary streams.	X							SCVWD	
10) Use reservoir sediment removal as one way to increase storage for both flood control and water supply.	X							DPW, SCVWD	
11) Elevate critical bridges affected by flooding to increase stream flow and maintain critical access and egress routes.						X			
12) Provide a mechanism to expedite the repair or replacement of levees that are vulnerable to collapse from earthquake-induced shaking or liquefaction, rodents, and other concerns, particularly those protecting critical infrastructure.	X							SCVWD	
13) Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage.	X							Engineering	C3 Program

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE): Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
14) Determine whether or not wastewater treatment plants are protected from floods, and if not, investigate the use of flood-control berms to not only protect from stream or river flooding, but also increasing plant security.	X							San Jose/Santa Clara Sewage Treatment Plant	
15) Work cooperatively with water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.							X		
16) Work for better cooperation among the patchwork of agencies managing flood control issues.							X		
17) Work cooperatively with upstream communities to monitor creek and watercourse flows to predict potential for flooding downstream.	X							SCVWD	
INFR - e - Landslides									
1) Include "areas subject to ground failure" in the list of criteria used for determining a replacement schedule (along with importance, age, type of construction material, size, condition, and maintenance or repair history) for pipelines.	X							Engineering	
2) Establish requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding.	X							Planning	
INFR - f - Building Reoccupancy									

Infrastructure Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
1) Ensure that critical buildings owned or leased by special districts or private utility companies participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). The BORP program permits owners of buildings to hire qualified structural engineers[1] to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of the buildings. **Note** - A qualified structural engineer is a California licensed structural engineer with relevant experience.							X		
INFR - g - Public Education									
1) Provide materials to the public related to planning for power outages.	X							Fire/OES	
2) Provide materials to the public related to family and personal planning for delays due to traffic or road closures.	X							DPW	
3) Provide materials to the public related to coping with reductions in water supply or contamination of that supply.	X							DPW	
4) Provide materials to the public related to coping with disrupted storm drains, sewage lines, and wastewater treatment.	X							DPW	
5) Facilitate and/or coordinate the distribution of materials that are prepared by others, such as by placing materials in city or utility newsletters, or on community access channels, as appropriate.	X							Fire/OES	

Health Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
HEAL - a - Hospitals and Other Critical Health Care Facilities									
1) Work with critical health care facilities operators to ensure that critical facilities are structurally sound and have nonstructural systems designed to remain functional following disasters (as required for acute-care hospitals for earthquakes by State law).						X			
2) Encourage hospitals to work with the California Office of Statewide Health Planning and Development (OSHPD) to formalize arrangements with structural engineers to report to the hospital, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. OSHPD, rather than city/county building departments, has the authority and responsibility for the structural integrity of hospital structures.						X			
3) Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation.						X			
4) Ensure these health care facilities have the capacity to shut off outside air and be self-contained.						X			
5) Ensure that hospitals and other major health care facilities have auxiliary water and power sources.						X			
6) Work with health care facilities to institute isolation capacity should a need for them arise following a communicable disease epidemic.						X			

Health Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)								Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered			
7) Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging employees of these critical health care facilities to have family disaster plans and conduct mitigation activities in their own homes.						X				
HEAL - b - *Ancillary Health-Related Facilities*										
1) Work with State of California licensing agencies to identify these ancillary facilities in your community.							X			
2) Encourage these facility operators to develop disaster mitigation plans.							X			
3) Encourage these facility operators to create, maintain, and/or continue partnerships with local governments to develop response and recovery plans.	X								Fire Prevention Bureau	
HEAL - c - Interface with National and State Health Care Initiatives										
1) Designate locations for the distribution of antibiotics to large numbers of people should the need arise, as required to be included in each county's Strategic National Stockpile Plan.					X				Santa Clara Co Health *Department Office of* Disaster Medical Operations	
2) *Ensure that you know the Metropolitan Medical* Response System (MMRS) cities in your area. For example, Oakland and Fremont are the MMRS cities in Alameda County. MMRS cities are those cities that are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel.	X								San Jose	
3) Know if any National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel.	X								Santa Clara County Health Department	

Health Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
4) Plan to utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agencies and Department of Defense laboratories in Berkeley (Lawrence Berkeley National Laboratory) or Livermore (Lawrence Livermore National Laboratory and Sandia) for confirmation of radiological agents.							X		
HEAL - d - Environmental Health									
1) Create discussion forums for food and health personnel, including, for example, medical professionals, veterinarians, and plant pathologists, to develop safety, security, and response strategies for food supply contamination.							X	Santa Clara County Health Department	
2) Train appropriate personnel to understand that the Metropolitan Medical Response System (MMRS) cities in your area. For example, Oakland and Fremont are the MMRS cities in Alameda County. MMRS cities are those cities that are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel.	X							San Jose	
3) Train appropriate personnel to know if any National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel.							X		

Health Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
4) Train appropriate personnel to know to utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agents and *Department of Defense laboratories in Berkeley* (Lawrence Berkeley National Laboratory) or Livermore (Lawrence Livermore National Laboratory and Sandia) for confirmation of radiological agents.							X		

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
HSNG - a - Multi-Hazard									
1) Be aware of past problems of inadequate hazard disclosure and work with real estate agents to improve enforcement of real estate disclosure requirements for those hazards covered by this plan, for example, by making those agents and the disclosure firms aware of the hazard maps incorporated in this plan and available on the ABAG web site at ***http://quake.abag.ca.gov/mitigation***, as well as locally developed maps.	X							Planning	
2) Create incentives for owners of historic or architecturally significant residential buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's *Guidelines for Rehabilitation.*	X							Building	
HSNG - b - Single-Family Homes Vulnerable to Earthquakes									
1) Utilize or recommend adoption of a retrofit standard that includes standard plan sets and construction details for voluntary bolting of homes to their foundations and bracing of outside walls of crawl spaces ("cripple" walls), such as that being developed by a committee representing the East Bay-Peninsula-Monterey Chapters of the International Code Council (ICC), California Building Officials (CALBO), the Structural Engineers Association of Northern California (SEAONC), the Northern California Chapter of the Earthquake Engineering Research Institute (EERI-NC), and ABAG's Earthquake Program.							X		

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE): Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
2) Require engineered plan sets for retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes, until standard plan sets and construction details become available.							X		
3) Require engineered plan sets for retrofitting of homes on steep hillsides.	X							Building	
4) Encourage local government building inspectors to take classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes.							X		
5) Encourage private retrofit contractors and home inspectors doing work in your area to take retrofit classes on a periodic basis(such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes.							X		
6) Conduct demonstration projects on common existing housing types demonstrating structural and nonstructural mitigation techniques as community models for earthquake mitigation.							X		
7) Provide retrofit classes or workshops for homeowners.							X		
8) Establish tool-lending libraries with common tools needed for retrofitting for use by homeowners with appropriate training.	X							Neighborhood Services	
9) Provide financial incentives to owners of applicable homes to retrofit.							X		
HSNG - c - Soft-Story Multifamily Residential Structures Vulnerable to Earthquakes									
1) Require engineered plan sets for voluntary or mandatory soft-story retrofits until a standard plan set and construction details become available.							X		

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
2) Adopt the *2003 International Existing Building Code*, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory soft-story building retrofits.							X		
3) Work to educate condominium and apartment owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives using materials such as those developed by ABAG (see ***http://quake.abag.ca.gov/fixit***) and the City of San Jose.							X		
4) Conduct an inventory of existing or suspected soft-story residential structures.	X							Santa Clara County OES	
5) Use the soft-story inventory to require owners to inform all existing tenants that they live in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will live in this type of building prior to signing a lease.							X		
6) Use the soft-story inventory to require owners to inform all existing tenants that they should be prepared to live elsewhere following an earthquake if the building has not been retrofitted.							X		
7) Investigate and adopt appropriate financial, procedural, and land use incentives for owners of soft-story buildings to facilitate retrofit such as those developed by ABAG (see ***http://quake.abag.ca.gov/fixit***) .							X		
8) Explore development of local ordinances or State regulations to require or encourage owners of soft-story structures to strengthen them.							X		
9) Provide technical assistance in seismically strengthening soft-story structures.							X		

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
HSNG - d - Unreinforced Masonry Housing Stock									
1) Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform property owners that they own this type of hazardous structure.	X							Building	
2) Accelerate retrofitting of unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.						X		*Only URM is not* habitable	
3) Require owners to inform all existing tenants that they live in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will live in this type of building prior to signing a lease.						X			
4) Require owners to inform all existing tenants that they should be prepared to live elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.						X			
HSNG - e - Other Privately-Owned Structurally Suspicious Residential Buildings and Earthquakes									
1) Identify and work toward tying down mobile homes used as year-round permanent residences using an appropriate cost-sharing basis (for example, 75% grant, 25% owner).	X							Building	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
2) Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious residential buildings.						X			
3) *Adopt the 2003 International Existing Building Code*, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory retrofit of seismically vulnerable buildings.	X							Building	1997 UBC
4) *Adopt one or more of the following strategies as* incentives to encourage retrofitting of privately-owned structurally deficient residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) *local tax breaks, (d) grants to cover the cost of* retrofitting or of a structural analysis, (e) land use and procedural incentives, or (f) technical assistance.							X		
HSNG - f - New Construction and Earthquakes									
1) *Continue* to require that all new housing be constructed in compliance with structural requirements of the most recently adopted version of the *California Building Code*.	X							Building	
2) *Conduct* appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing *and recommended improvements*.	X							Building	
HSNG - g - Wildfire and Structural Fires									

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
1) Increase efforts to reduce hazards in existing development in high wildfire hazard areas (identified as wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat) through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	X							Fire Prevention Bureau, Building	
2) Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	X							Fire	
3) Require that new homes in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat be constructed of fire-resistant building materials (including roofing and exterior walls) and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. **Note** - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at http://osfm.fire.ca.gov/structural.html.	X							Fire Prevention Bureau, Building	
4) Develop financial incentives for homeowners to be "model" defensible space homes in neighborhoods that are wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.							X		
5) Consider fire safety, evacuation, and emergency vehicle access when reviewing proposals to add secondary units or additional residential units in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	X							Fire Prevention Bureau, Building, Planning	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
6) Adopt and/or amend, as needed, updated versions of the *California Building and Fire Codes* so that optimal fire-protection standards are used in construction and renovation projects.	X							Fire Prevention Bureau, Planning	
7) Create a mechanism to enforce provisions of the *California Building and Fire Codes* and local housing codes that require the installation of smoke detectors and/or fire-extinguishing systems by making installation a condition of (a) finalizing a permit for any work on existing properties valued at over a fixed amount, such as $500 or $1000, and/or (b) a condition for the transfer of property if these changes are determined cost-effective strategies.	X							Fire Prevention Bureau, Building	
8) Work to ensure a reliable source of water for fire suppression in rural-residential areas through the cooperative efforts of water districts, fire districts, and residents.	X							Fire Prevention Bureau, Engineering, DPW	
9) Expand vegetation management programs in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.							X		
10) Promote the installation of early warning fire alarm systems in homes wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat connected to fire department communication systems.	X							Fire Prevention Bureau	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
11) Establish a Fire Hazard Abatement District to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.							X		
12) Work with residents in rural-residential areas to ensure adequate access and evacuation in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.						X			
13) Require fire sprinklers in new homes located more than 1.5 miles or a 5-minute response time from a fire station or in an identified high hazard wildland-urban-interface wildfire area.	X							Fire Prevention Bureau, Planning	Using Milpitas specific standards
14) Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station.	X							Fire Prevention Bureau, Planning	Using Milpitas specific standards
15) Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas.	X							Fire Prevention Bureau	
16) Compile a list of high-rise and high-occupancy buildings which are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.						X			
17) Conduct periodic fire-safety inspections of all multi-family buildings, as required by State law.	X							Fire	
18) Ensure that fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	X							SCVWD	

Housing Mitigation Strategies

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	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
19) Create a mechanism to require the bracing of water heaters and flexible couplings on gas appliances, and/or (as specified under "a. Single-family homes vulnerable to earthquakes" above) the bolting of homes to their foundations and strengthening of cripple walls to reduce fire ignitions due to earthquakes.	X							Building	
20) Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of soft-story residential or mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. **Note** - See http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf. **Also note** - any values that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).							X		
HSNG - h - Flooding									
1) To reduce flood risk, and thereby reduce the cost of flood insurance to property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	X							Engineering	One of top rated cities in California
2) Balance the housing needs of residents against the risk from potential flood-related hazards.	X							Planning	
3) Ensure that new development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development.	X							Planning	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)								Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered			
4) Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to the disabled and elderly upon request.	X								DPW	
5) Provide public information on locations for obtaining sandbags and/or deliver those sandbags to those various locations throughout a city and/or county prior to and/or during the rainy season.	X								DPW, PIO, OES	
6) Apply floodplain management regulations for development in the floodplain and floodway.	X								Engineering	
7) Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable.	X								Engineering	
8) Encourage home and apartment owners to participate in home elevation programs.	X								Engineering	
9) As funding opportunities become available, encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways.							X			
10) Encourage owners of properties in a floodplain to consider purchasing flood insurance. For example, point out that most homeowners' insurance policies do not cover a property for flood damage.	X								Lenders require flood insurance	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
1) Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards, such as those appearing in the *California Building Code*, California Geological Survey *Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California, American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California, and the California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports.* Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	X							Engineering	
2) Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies.							X		
HSNG - j - Building Reoccupancy									
1) Develop and enforce an ordinance for disaster-damaged structures to ensure that residential buildings are repaired in an appropriate and timely manner and retrofitted concurrently to avoid a recurrence.	X							Neighborhood Services	
HSNG - k - Public Education									

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
1) Provide information to residents of your community on the availability of interactive hazard maps showing your community on ABAG's web site.							X		
2) Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging residents to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	X							Fire OES	
3) Better inform residents of comprehensive mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in high wildfire threat and wildfire-urban-interface areas, structural retrofitting techniques for older homes, and use of intelligent grading practices through workshops, publications, and media announcements and events.	X							Fire Prevention Bureau	
4) Develop a public education campaign on the cost, risk, and benefits of earthquake, flood, and other hazard insurance.							X		
5) Use disaster anniversaries, such as April (Earthquake Month and the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public on safety and security mitigation activities.	X							Fire OES, Santa Clara County Emergency Managers Association	
6) Sponsor the formation and training of Community Emergency Response Teams (CERT) training. [Note – these programs go by a variety of names in various cities and areas.]	X							Fire OES	

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
7) Include flood fighting technique session based on California Department of Water Resources training to the list of available public training classes offered by CERT.						X			
8) Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide.	X							Police	
9) Assist residents in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	X							Fire	
10) Train homeowners to locate and shut off gas valves if they smell or hear gas leaking.	X							Fire Prevention Bureau, Fire OES	
11) Distribute NOAA weather radios to high-risk, limited-income families living in flood hazard areas.						X			
12) Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas.						X			
13) Make use of the materials on the ABAG web site at http://quake.abag.ca.gov/fixit and other web sites to increase residential mitigation activities related to earthquakes. (ABAG plans to continue to improve the quality of those materials over time.)							X		
14) Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging businesses and residents to keep storm drains in their neighborhood free of debris.							X		

Housing Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
15) Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local *Fire Safe Councils* and the *Fire Wise Program*.							X		
16) Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.						X			
17) Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website.	X							Fire OES	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
ECON - a - Multi-Hazard									
1) Be aware of past problems of inadequate hazard disclosure and work with real estate agents to improve enforcement of real estate disclosure requirements for those hazards covered by this plan, for example, by making those agents and the disclosure firms aware of the hazard maps incorporated in this plan and available on the ABAG web site at ***http://quake.abag.ca.gov/mitigation***, as well as locally developed maps.	X							Planning	
2) Create incentives for owners of historic or architecturally significant residential buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's *Guidelines for Rehabilitation.*	X							Building	
ECON - b - Soft-Story Commercial Buildings Vulnerable to Earthquakes									
1) Require engineered plan sets for voluntary or mandatory soft-story retrofits until a standard plan set and construction details become available.							X		
2) Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory soft-story building retrofits.							X		
3) Work to educate building owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives using materials such as those developed by ABAG (see ***http://quake.abag.ca.gov/fixit***) and the City of San Jose.							X		

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE): Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
4) Conduct an inventory of existing or suspected soft-story commercial and industrial structures.	X							Santa Clara County OES	
5) Use the soft-story inventory to require owners to inform all existing tenants that they work in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will work in this type of building prior to signing a lease.							X		
6) Use the soft-story inventory to require owners to inform all existing tenants that they should be prepared to work elsewhere following an earthquake if the building has not been retrofitted.							X		
7) Investigate and adopt appropriate financial, procedural, and land use incentives for owners of soft-story buildings to facilitate retrofit.							X		
8) Explore development of local ordinances or State regulations to require or encourage owners of soft-story structures to strengthen them.							X		
9) Provide technical assistance in seismically strengthening soft-story structures.							X		
ECON - c - Unreinforced Masonry Buildings in Older Downtown Areas									
1) Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform property owners that they own this type of hazardous structure.	X							Building	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
2) *Accelerate retrofitting of unreinforced masonry* structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners *who show inadequate efforts to upgrade* these buildings.						X		Only URM is non-habitable	
3) Require owners to inform all existing tenants that they work in this type of building and the standard to which it may have been retrofitted, as well as require owners to inform tenants that they will work in this type of building prior to signing a lease.						X			
4) Require owners to inform all existing tenants that they should be prepared to work elsewhere following an earthquake even if the building has been retrofitted, for it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.						X			
ECON - d - Privately-Owned Structurally Suspicious Buildings									
1) Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious buildings.						X			
2) Adopt the 2003 International Existing Building Code, the 1997 UBC, or the latest applicable code standard for the design of voluntary or mandatory retrofit of seismically vulnerable buildings.	X							Building	1997 UBC

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)								Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered			
3) Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned structurally suspicious commercial and industrial buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use and procedural incentives, or (f) technical assistance.							X			
ECON - e - Wildfire and Structural Fires										
1) Increase efforts to reduce fire in existing development through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on mitigation strategies.	X								Fire Prevention Bureau	
2) Require that new business and office buildings in high fire hazard areas be constructed of fire-resistant building materials and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability.	X								Fire Prevention Bureau, Planning	
3) Adopt and amend as needed updated versions of the *California Building and Fire Codes* so that optimal fire-protection standards are used in construction and renovation projects.	X								Building	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR *Other Comments*
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
4) Create a mechanism to enforce provisions of the *California Building and Fire Codes* and other local codes that require the installation of smoke detectors and fire-extinguishing systems by making installation a condition of (a) finalizing a permit for any work on existing properties valued at over a fixed amount, such as $500 or $1000, and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	X							Fire Prevention Bureau	Particulars may vary
5) Expand existing vegetation management programs in commercial and/or industrial areas.						X			
6) Establish a Fire Hazard Abatement District to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.							X		
7) Establish a Fire Hazard Abatement District to fund fire-safety inspections of private properties, roving firefighter patrols on high fire-hazard days, and public education efforts.							X		
8) Compile a list of high-rise and high-occupancy buildings that are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.						X			
9) Conduct periodic fire-safety inspections of all commercial and institutional buildings.	X							Fire	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
10) Work with the State Fire Marshall, the California Seismic Safety, PEER, and other experts to identify and manage gas-related fire risks of soft-story mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. **Note** - See http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf. **Also note** - any values that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).							X		
11) Ensure that fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	X							SCVWD	
12) Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" *Fire Wise* landscaping and fire-resistant building materials.							X		
ECON - f - Flooding									
1) To reduce flood risk, thereby reducing the cost of flood insurance to property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	X							Engineering	Milpitas is a top rated city in California
2) Balance the needs for commercial and industrial development against the risk from potential flood-related hazards.	X							Planning	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE): Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
3) Ensure that new development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, ***or*** does not increase runoff by draining water to pervious areas or detention facilities.	X							Planning	
4) Provide sandbags and plastic sheeting to businesses in anticipation of rainstorms, and deliver those materials to the disabled and elderly upon request.	X							DPW	
5) Provide public information on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county.	X							DPW, PIO, OES	
6) Apply floodplain management regulations for development in the floodplain and floodway.	X							Engineering	
7) Encourage business owners to participate in building elevation programs.	X							Engineering	
8) Encourage business owners to participate in acquisition and relocation programs for areas within floodways.							X		
9) Require an annual inspection of approved flood-proofed buildings to ensure that (a) all flood-proofing components will operate properly under flood conditions and (b) all responsible personnel are aware of their duties and responsibilities as described in their building's *Flood Emergency Operation Plan* and *Inspection & Maintenance Plan*.							X		

ECON - g - Landslides and Erosion

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
1) Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards, such as those appearing in the *California Building Code*, California Geological Survey *Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California, American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California, and the California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports.* Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	X							Engineering	
2) Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies.							X		
ECON - h - Construction									
1) Continue to require that all new commercial and industrial buildings be constructed in compliance with structural requirements of the most recently adopted version of the *California Building Code*.	X							Building	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
2) Conduct appropriate employee training and support continued education to ensure enforcement of construction standards.	X							Building	
3) Recognize that many strategies that increase earthquake resistance also decrease damage in an explosion. In addition, recognize that ventilation systems can be designed to contain airborne biological agents.							X		
ECON - i - Building Reoccupancy									
1) Institute an aggressive program similar to San Francisco's Building Occupancy Resumption Program (BORP). This program permits owners of private buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster.							X		
2) Actively notify owners of historic or architecturally significant buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.							X		
3) Actively notify owners of educational facility buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.							X		

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
4) Allow owners to participate in a BORP-type program as described above, but not actively encourage them to do so.							X		
5) Develop and enforce an ordinance for disaster-damaged structures to ensure that damaged buildings are repaired in an appropriate and timely manner.							X		
6) Establish preservation-sensitive measures for the repair and reoccupancy of historically significant structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.							X		
ECON - j - Public Education									
1) Provide information to business owners and employees on the availability of interactive hazard maps on ABAG's web site.							X		
2) Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging businesses' employees to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	X							Fire OES	
3) Develop printed materials, conduct workshops, and provide outreach to Bay Area businesses focusing on business continuity planning.	X							Fire OES	

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
4) Better inform Bay Area business owners of mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat, structural retrofitting techniques for older buildings, and use of intelligent grading practices through workshops, publications, and media announcements and events.	X							Fire Prevention Bureau	
5) Sponsor the formation and training of Community Emergency Response Teams (CERT) training through partnerships with local businesses. [Note – these programs go by a variety of names in various cities and areas.]							X		
6) Assist businesses in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.							X		
7) Make use of the materials developed by others (such as found on ABAG's web site at ***http://quake.abag.ca.gov/business***) to increase mitigation activities related to earthquakes. ABAG plans to continue to improve the quality of those materials over time.							X		
8) Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging businesses and residents to keep storm drains in their neighborhood free of debris.							X		

Economy Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
9) Encourage the formation of a community-based approach to wildfire education and action through local Fire Safe Councils and the *Fire Wise Program*.							X		
10) Encourage businesses and laboratories handling hazardous materials or pathogens increase security to a level high enough to create a deterrent to crime and terrorism, including active implementation of "cradle-to-grave" tracking systems.	X							Fire Prevention Bureau	
11) Encourage joint meetings of security and operations personnel at major employers to develop innovative ways for these personnel to work together to increase safety and security.	X							Fire OES, Business Partnership for Emergency Preparedness	
12) Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.							X		
13) Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website.	X							Sanra Clara County OES	

Government Mitigation Strategies

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	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
GOVT - a - *Focus on Critical Facilities*									
1) Assess the vulnerability of critical facilities (such as city halls, fire stations, community service centers, seaports, and airports) to damage in natural disasters and make recommendations for appropriate mitigation.	X							Engineering	
2) Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.			X					Engineerng	Project 1: Water Pipeline Replacement; Council Resoluiton 7503; Estimated cost $2.003M; Funds source CIP 8160; Target completion Spring 2007 Project 2: Main Sewage Lift Station Replacement / Hardening; 2005-2010 CIP; Estimated cost $10-15M; Funds source Sewer fund, RDA; Target completion winter 2009
3) Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.							X		
4) Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters.	X							*All City Departments*	

Government Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
5) Encourage joint meetings of security and operations personnel at critical facilities to develop innovative ways for these personnel to work together to increase safety and security.	X							All City Departments	
6) Install micro and/or surveillance cameras around critical public assets tied to web-based software, and develop a surveillance protocol to monitor these cameras.	X							Information Services	
7) Identify and undertake cost-effective retrofit measures on critical facilities (such as moving and redesigning air intake vents and installing blast-resistant features) when these buildings undergo major renovations.							X		
8) Coordinate with the State Division of Safety of Dams to ensure that cities and counties are aware of the timeline for the maintenance and inspection of dams whose failure would impact their jurisdiction.	X							SCVWD	
9) As a secondary focus, assess the vulnerability of non-critical facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.							X		
10) Ensure that government-owned facilities are subject to the same or more stringent regulations as imposed on privately-owned development.	X							Building	
11) Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities.	X							Building	

Government Mitigation Strategies

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	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
12) Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant hazards.	X							Building	
GOVT - b - Maintain and Enhance Local Government's Emergency Response and Recovery Capacity									
1) Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.	X							Fire OES	
2) Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning.							X		
3) Establish a goal for the resumption of local government services that may vary from function to function.	X							City Managers Office	
4) Develop a plan for short-term and intermediate-term sheltering of impacted residents.	X							Fire OES	
5) Periodically assess the need for new or relocated fire or police stations and other emergency facilities, changes in staffing levels, and additional or updated supplies, equipment, technologies, and in-service training classes.	X							Fire, Police	
6) Ensure that fire and police department personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster.	X							Fire, Police	
7) Develop and maintain a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies.	X							Fire, Police	

Government Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
8) Harden emergency response communications, including, for example, building redundant capacity into public safety alerting and/or answering points, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio.	X							Fire, Police	
9) Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate.						X			
10) Maintain the local government's emergency operations center in a fully functional state of readiness.	X							Fire OES	
11) Expand or participate in expanding traditional disaster exercises involving city and county emergency personnel to include airport and port personnel, transit and infrastructure providers, hospitals, schools, park districts, and major employers.	X							Fire OES	
12) Maintain and update as necessary the local government's Standardized Emergency Management System Plan.	X							Fire OES	
13) Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.	X							Fire, Police, OES	
14) Install an alert and warning system with outdoor sirens, coordinating them, to the extent possible, with those of neighboring jurisdictions.	X							Fire OES	
15) Conduct periodic tests of the alerting and warning system's outdoor sirens no less frequently than once per month.	X							Fire OES	

Government Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
16) Regulate and enforce the location and design of street-address numbers on buildings and minimize the naming of short streets (that are actually driveways) to single homes.							X		
17) Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers.	X							Fire OES	
18) Establish regional protocols on how to respond to the NOAA Monterey weather forecasts, such as the identifying types of closures, limits on work that could cause ignitions, and prepositioning of suppression forces). A multi-agency coordination of response also helps provide unified messages to the public about how they should respond to these periods of increased fire danger.	X							Fire	
19) Increase local patrolling during periods of high fire weather.	X							Fire	
20) Create and maintain an automated system of rain and flood gauges that is web enabled and publicly accessible.	X							SCVWD, NOAA	
21) Place remote sensors in strategic locations for early warning of hazmat releases or use of weapons of mass destruction.							X		
22) Investigate the use of phone-based warning systems for selected geographic areas.	X							Fire OES	Teleminder system
23) Review and update, as necessary, procedures pursuant to the *State Dam Safety Act* for the emergency evacuation of areas located below major water-storage facilities.	X							SCVWD	
24) Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps as these maps become available.						X			

Government Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE): Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
25) Develop a business continuity plan that includes back-up storage of vital records, such as essential medical records and financial information.							X		
GOVT - c - Participate in National, State, Multi-Jurisdictional and Professional Society Efforts to Identify and Mitigate Hazards									
1) Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.	X							Santa Clara County OES, Emergency Managers Association	
2) Recognize that emergency services is more than the coordination of police and fire response, for it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services.	X							Fire OES	
3) Recognize that a multi-agency approach is needed to mitigate flooding by having flood control districts, cities, counties, and utilities meet at least annually to jointly discuss their a capital improvement programs for most effectively reducing the threat of storm-induced flooding.	X							Engineering, Planning, SCVWD	
4) As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital geographic information system data to reflect flood risks as accurately as possible.	X							SCVWD	
5) Participate in FEMA's National Flood Insurance Program.	X							Engineering	
6) Participate in multi-agency efforts to mitigate fire threat, such as the Hills Emergency Forum (in the east Bay), various *FireSafe* Council programs, and city-utility task forces.							X		

Government Mitigation Strategies

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	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
7) Work with major employers and agencies that handle hazardous materials to coordinate mitigation efforts for the possible release of these materials due to a natural disaster such as an earthquake, flood, fire, or landslide.							X	Fire OES, Building	
8) Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses, such as the efforts of the Northern California Chapter of the Earthquake Engineering Research Institute, the East Bay-Peninsula Chapter of the International Code Council, the Structural Engineers Association of Northern California, and the American Society of Grading Officials.	X								
9) Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials to educate the officials on the critical need for programs in mitigating earthquake, wildfire, flood, and landslide hazards.							X	Santa Clara County OES	
10) Cooperate with researchers working on government-funded projects to refine information on hazards, for example, by expediting the permit and approval process for installation of seismic arrays, gravity survey instruments, borehole drilling, fault trenching, landslide mapping, flood modeling, and/or damage data collection.	X								

Education Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
EDUC - a - Focus on Critical Facilities 1) Assess the vulnerability of critical education facilities to damage in natural disasters and make recommendations for appropriate mitigation. 2) Retrofit or replace critical education facilities that are shown to be vulnerable to damage in natural disasters. 3) Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major disasters. 4) As a secondary focus, assess the vulnerability of non-critical educational facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.									

Education Mitigation Strategies

Specific Mitigation Strategy	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study) OR Other Comments
	Existing Program	Very High	High	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
5) Participate in or facilitate adoption of a program to formalize arrangements with structural engineers to report to the district, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. Unlike the buildings of most special districts, however, these plans should be developed with the review and guidance of the Division of the State Architect because this agency has the authority and responsibility for the structural integrity of these structures.									
EDUC - b - Use of Educational Facilities as Emergency Shelters									
1) Work cooperatively with the American Red Cross and others to set up memoranda of understanding for use of education facilities as emergency shelters following disasters.									
2) Work cooperatively to ensure that school district personnel and relevant staff understand and are trained that being designated by the American Red Cross or others as a potential emergency shelter does not mean that the school has had a hazard or structural evaluation to ensure that it can be used as a shelter following any specific disaster.									

Education Mitigation Strategies

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3) Work cooperatively to ensure that school district personnel understand and are trained that they are designated as disaster service workers and must remain at the school until released.									
EDUC - c - Use of Schools as Conduits for Information to Families About Emergencies									
1) Work on and/or support efforts by schools, local governments, and other agencies to utilize their unique ability to reach families through educational materials on hazards, mitigation, and preparedness, particularly after disasters and at the beginning of the school year. These efforts will not only make the entire community more disaster-resistant, but speed the return of schools from use as shelters to use as teaching facilities.									
2) Work on and/or support joint efforts of schools and fire jurisdictions to develop plans for evacuation or sheltering in place of school children during periods of high fire danger, thereby recognizing that overloading of streets near schools by parents attempting to pick up their children during these periods can restrict access by fire personnel and equipment.									
3) Offer the 20-hour basic CERT training to teachers and after-school personnel.									
4) Offer the 20-hour basic CERT training to middle school and/or high school students as a part of the basic science or civics curriculum, as an after school club, or as a way to earn public service hours.									
5) Offer the 20-hour basic CERT training course through the Adult School system and/or through the Community College system.									

Education Mitigation Strategies

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6) Develop and maintain the capacity for schools to take care of the students for the first 48 hours after a disaster, and notify parents that this capacity exists.									
7) Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the http://www.preparenow.org website.									

Environment Mitigation Strategies

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ENVI - a - Environmental Sustainability and Pollution Reduction									
1) Continue to enforce State-mandated requirements, such as the *California Environmental Quality Act*, to ensure that mitigation activities for hazards, such as vegetation clearance programs for fire threat and seismic retrofits, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation.	X							Planning	
2) Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs, particularly to meet critical wildfire, flood, and earthquake safety levels.	X							Planning, Engineering	
3) Continue to enforce and/or comply with State-mandated requirements, such as the *California Environmental Quality Act* and environmental regulations to ensure that urban development is conducted in a way to minimize air pollution. For example, air pollution levels can lead to global warming, and then to drought, increased vegetation susceptibility to disease (such as pine bark beetle infestations), and associated increased fire hazard.	X							Planning	
4) Develop and implement a comprehensive program for watershed maintenance, optimizing forest health with water yield to balance water supply, flooding, fire, and erosion concerns.	X							SCVWD	

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5) Balance the need for the smooth flow of storm waters versus the need to maintain wildlife habitat by developing and implementing a comprehensive Streambed Vegetation Management Plan that ensures the efficacy of flood control efforts and maintains the viability of living rivers.	X							SCVWD	
6) Stay informed of emerging scientific information on the subject of rising sea levels, especially on additional actions that local governments can take to mitigate this hazard.	X							SCVWD	
7) Monitor the science associated with global warming to be able to act promptly when data become available to warrant special design and engineering of government-owned facilities located in low-lying areas, such as wastewater treatment plants, ports, and airports.	X							SCVWD	
8) Comply with applicable performance standards of any *National Pollutant Discharge Elimination System* municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects.	X							Engineering	
9) Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated stormwater flows by other than approved methods that seek to minimize associated pollution.	X							Engineering	
10) Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.	X							Fire Prevention Bureau	

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11) Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).	X							Fire Prevention Bureau	
12) Provide information on hazardous waste disposal and/or drop off locations.	X							Santa Clara Co Environ Health	
13) Develop and implement a program to control invasive and exotic species that contribute to fire and flooding hazards (such as eucalyptus, cattails, and cordgrass).							X		
14) Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to confirm with the Regional Water Quality Control Board's Best Management Practices.	X							SCVWD	
ENVI - b - Agricultural and Aquaculture Resilience									
1) Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency.						X			
2) Promote and maintain the public-private partnerships dedicated to preventing the introduction of agricultural pests into regionally-significant crops, such as the glassy-winged sharpshooter into vineyards.	X							Santa Clara Co Vector Control	
3) Remove septic tanks and other sources of contamination adjacent to economically-significant aquacultural and agricultural resources.						X			
4) Encourage livestock operators to develop an early-warning system to detect animals with communicable diseases (due to natural causes or bioterrorism).							X	Santa Clara Co Vector Control	

Land Use Mitigation Strategies

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LAND - a - Earthquake Hazard Studies for New Developments									
1) Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones, and restrict the placement of structures for human occupancy. (This Act is intended to deal with the ***specific*** hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)	X							Planning	
2) Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure and foundation design, and/or avoidance.	X							Planning	
3) Recognizing that some faults may be a hazard for surface rupture, even though they do not meet the strict criteria imposed by the Alquist-Priolo Earthquake Fault Zoning Act, identify and require geologic reports in areas adjacent to locally-significant faults.	X							Planning	
4) Recognizing that the California Geological Survey has not completed earthquake-induced landslide and liquefaction mapping for much of the Bay Area, identify and require geologic reports in areas mapped by others as having significant liquefaction or landslide hazards.	X							Planning	

Land Use Mitigation Strategies

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5) Support and/or facilitate efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area.	X							Planning	
6) Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel.	X							Planning	
LAND - b - Wildland and Structural Fires									
1) Review development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by emergency response	X							Fire Prevention Bureau, Planning	
2) Develop a clear legislative and regulatory framework at both the state and local levels to manage the wildland-urban-interface consistent with *Fire Wise* and sustainable community principles.							X		
LAND - c - Flooding									
1) Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes.	X							Engineering	
2) Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.	X							Engineering	
3) Provide an institutional mechanism to ensure that development proposals adjacent to floodways and in floodplains are referred to flood control districts and wastewater agencies for review and comment (consistent with the NPDES program).	X							Engineering	

Land Use Mitigation Strategies

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4) Establish and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be in compliance with federal requirements and, thus, be a participant in the Community Rating System of the *National Flood Insurance Program*.	X							Engineering	
LAND - d - Landslides and Erosion									
1) Establish and enforce provisions (under subdivision ordinances or other means) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval.	X							Planning	
2) Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel.	X							Planning	
3) Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval.	X							Planning	
4) Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.	X							Planning	
5) Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides.	X							Planning	
LAND - e - Hillside - Multi-Hazard									
1) Establish a buffer zone between residential properties and landslide or wildfire hazard areas.						X			

Land Use Mitigation Strategies

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2) Discourage, add additional mitigation strategies, or prevent construction on slopes greater than a set percentage, *such as 15%, due to landslide or wildfire* hazard concerns.	X							Planning	
LAND - f - Smart Growth to Revitalize Urban Areas and Promote Sustainability									
1) Prioritize retrofit of infrastructure that serves urban areas over constructing new infrastructure to serve outlying areas.							X		
2) Work to retrofit homes in older areas to provide safe housing close to job centers.							X		
3) Work to retrofit older downtown areas to protect architectural diversity and promote disaster-resistance.							X		
4) Protect as open space areas susceptible to extreme hazards.							X		
5) Provide new buffers and preserve existing buffers between development and existing users of large amounts of hazardous materials, such as major industry, due to the potential for catastrophic releases due to an earthquake or terrorism. (Flooding might also result in release or spread of these materials, however it is unlikely.)							X		